

What is claimed is:

1. A method for producing high purity crystals of polyhydroxy cyclic carboxylic acids (PCCA) from an aqueous solution thereof which comprises:
  - a) concentration of an aqueous solution of said PCCA to a concentration of at least 250 grams of said PCCA per liter;
  - b) combining said concentrated PCCA with at least one acid selected from the group consisting of acetic acid, lactic acid, propionic acid and mixtures thereof to form a PCCA/acid slurry; and
  - c) isolation of said crystals from said slurry.
2. The method according to claim 1 wherein said PCCA is selected from shikimic acid, quinic acid, dehydroshikimic acids, 6-fluoroshikimic acid, and derivatives thereof.
3. The method according to claim 1 wherein said concentration of said PCCA is at least 450 grams per liter.
4. The method according to claim 1 wherein said acid is shikimic acid.
5. The method according to claim 1 which additionally comprises cooling said PCCA/acid slurry to a temperature less than 25°C to form high purity crystals of said PCCA.
6. The method according to claim 5, which additionally comprises the step of heating and agitating the PCCA/acid slurry prior to the cooling step.
7. The method according to claim 6 wherein said heating step heats the PCCA/acid slurry to a temperature of from 25° to 90°C.

8. The method according to claim 5 wherein said cooling step is accomplished in 1 to 8 hours.
9. The method according to claim 8 wherein said slurry is cooled to a temperature of less than 10°C.
10. The method according to claim 1 wherein said acid is concentrated.
11. The method according to claim 1 wherein said aqueous solution of PCCA is obtained from the fermentation of microorganisms.
12. A high purity PCCA obtained via the method according to claim 1.
13. A method for producing high purity crystals of polyhydroxy cyclic carboxylic acids (PCCA) from aqueous solutions thereof comprising the steps of:
  - a) obtaining a solution of PCCA from the fermentation broth of an organism,
  - b) concentrating said solution to a concentration of at least 450 gms of PCCA per liter;
  - c) combining said concentrated solution with at least one acid selected from the group consisting of acetic acid, lactic acid, propionic acid and mixtures thereof at a temperature of from 25 to 90°C to form a PCCA/acid slurry;
  - d) cooling said PCCA/acid slurry to a temperature of from 25 to 5°C to form crystals of said PCCA; and
  - e) isolating said crystals from said slurry.
14. The method according to claim 13 wherein said PCCA is shikimic acid; said organism is *E. coli*; said concentration of said solution is at least 500

gm per liter; said acid is concentrated acetic acid; and wherein the volume of said concentrated solution can range from 0.5 to 2.0

15. The method according to claim 14 wherein said *E. coli* is a genetically modified organism; the concentration of said solution is at least 600 gms per liter of PCCA; and wherein the volume of said concentrated acetic acid to the volume of said concentrated solution can range from 1.1 to about 1.4.
16. A method for producing high purity crystals of shikimic acid, said method comprising the steps of:
  - a) culturing in a medium an organism capable of excretion shikimic acid into said medium;
  - b) separating said microorganisms from said medium to obtain an aqueous solution of shikimic acid;
  - c) concentrating said solution to a concentration of at least 450 gms of shikimic acid per liter to obtain a concentrated solution;
  - d) combining said concentrated solution with concentrated acetic acid at a temperature in excess of 25°C to obtain a shikimic acid/acid slurry;
  - e) cooling said shikimic acid/acid slurry to a temperature below 25°C to obtain crystals of shikimic acid; and
  - f) isolating said shikimic acid crystals from said slurry.
17. The method according to claim 16 wherein said means to enhance excretion of shikimic acid is selected from; genetic engineering of the genes encoding for shikimatekinase, EPSP synthetase and Chorismate synthase; and adding inorganic phosphate at a limiting rate to the medium.